4

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/748,740 | 12/30/2003 | Ian D. McCallum | P16508 | 7529 |

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| EXAMINER |
|---|
| DO, CHAT C |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2193 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 04/06/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/748,740 | MCCALLUM, IAN D. |
| | Examiner | Art Unit | |
| | Chat C. Do | 2193 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>30 December 2003 and 05 February 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-28* is/are pending in the application.

    4a) Of the above claim(s) *13 and 14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 15-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/30/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

# DETAILED ACTION

1.      This communication is responsive to Election/Restriction filed 02/05/2007.

2.      Claims 1-28 are pending in this application. Claims 1, 15, 19, and 24 are independent

claims. In Election/Restriction, claims 13-14 are withdrawn from consideration. This Office

Action is made non-final.

## *Election/Restrictions*

3.      Applicant's election of Group I claims 1-12 and 15-28 in the reply filed on 02/05/2007 is

acknowledged. Because applicant did not distinctly and specifically point out the supposed

errors in the restriction requirement, the election has been treated as an election without traverse

(MPEP § 818.03(a)).

## *Claim Rejections - 35 USC § 101*

4.      35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

5.      Claims 1-12 and 15-28 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

         Claims 1-12 and 15-28 cite a method, article, and node for finding a match in

sequence in accordance with a predetermined mathematical algorithm. In order for

claims to be statutory, claims must either include a practical/physical application or a

concrete, useful, and tangible result. However, claims 1-12 and 15-28 merely disclose

steps/components for searching a match pattern without further disclosing a

practical/physical application or a useful and tangible result. Therefore, claims 1-12 and

15-28 are directed to non-statutory subject matter.

### *Claim Rejections - 35 USC § 102*

6.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7.      Claims 1-11, 15-21, 23-26, and 28 are rejected under 35 U.S.C. 102(e) as being

anticipated by Moreno (U.S. 7,065,544).

Re claim 1, Moreno discloses in Figures 2-3 and 7 a method for searching for a

match to a sequence of bits (e.g. abstract and output of Figures 7 wherein it searching for

a matched signature within a library base), comprising: selecting a predetermined number

of bits from a data stream (e.g. Figure 3a with 64a-64n wherein each of the samples are

around 5sec of sampling); applying a function to the selected bits (e.g. 66a-66n in Figure

3a and components 106-110 in Figure 7a for generating a covariance matrix between

samples); and determining whether a pattern of bits resulting from the application of the

function to the selected sequence of bits matches a predefined pattern (e.g. Figures 7 and

col. 7 lines 6-45 for comparing with the stored signature to determine a match).

Re claim 2, Moreno further discloses in Figures 2-3 and 7 the number of bits in the pattern of bits resulting from the application of the function to the selected bits is less than the number of selected bits (e.g. Figure 3b for overlap comparison).

Re claim 3, Moreno further discloses in Figures 2-3 and 7 the selected bits are contiguous (e.g. 64a-64n in Figure 3a wherein bits are sampled consecutively).

Re claim 4, Moreno further discloses in Figures 2-3 and 7 the bits represent numbers (e.g. col. 1 lines 5-20 and col. 3 line 5-10 as sample data for covariance or correlation computation).

Re claim 5, Moreno further discloses in Figures 2-3 and 7 the bits represent hexadecimal numbers (e.g. col. 1 lines 5-20 and col. 3 line 5-10 as sample data for covariance or correlation computation).

Re claim 6, Moreno further discloses in Figures 2-3 and 7 the bits represent binary numbers (e.g. col. 1 lines 5-20 and col. 3 line 5-10 as sample data for covariance or correlation computation).

Re claim 7, Moreno further discloses in Figures 2-3 and 7 the bits represent non-numeric information (e.g. col. 1 lines 5-20 and col. 3 line 5-10 as sample data for covariance or correlation computation).

Re claim 8, Moreno further discloses in Figures 2-3 and 7 the resulting pattern of bits matches the predefined pattern when the resulting pattern of bits is identical to the predefined pattern and the bits of the resulting pattern of bits are in the same order as the bits of the predefined pattern (e.g. Figure 7b and col. 7 lines 22-45).

Re claim 9, Moreno further discloses in Figures 2-3 and 7 comparing the resulting pattern of bits to a second predefined pattern to determine whether the resulting pattern of bits matches the second predefined pattern (e.g. Figures 7 and col. 7 lines 22-45 as restart the sequence of comparison).

Re claim 10, Moreno further discloses in Figures 2-3 and 7 identifying the resulting pattern of bits as a match when the resulting pattern of bits matches the predefined pattern (e.g. component 128 in Figure 7b).

Re claim 11, Moreno further discloses in Figures 2-3 and 7 comparing the selected bits from the data stream to a second predefined pattern when the resulting pattern of bits matches the predefined pattern; and identifying the selected bits from the data stream as a match when the selected bits from the data stream match the second predefined pattern (e.g. Figures 7 and col. 7 lines 22-45 as restart the sequence of comparison).

Re claim 15, it is an article of manufacture claim of claim 1. Thus, claim 15 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 16, it is an article of manufacture claim of claim 9. Thus, claim 16 is also rejected under the same rationale as cited in the rejection of rejected claim 9.

Re claim 17, it is an article of manufacture claim of claim 3. Thus, claim 17 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 18, it is an article of manufacture claim of claim 8. Thus, claim 18 is also rejected under the same rationale as cited in the rejection of rejected claim 8.

Re claim 19, it is a computer claim of claim 1. Thus, claim 19 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 20, it is a computer claim of claim 9. Thus, claim 20 is also rejected under the same rationale as cited in the rejection of rejected claim 9.

Re claim 21, it is a computer claim of claim 3. Thus, claim 21 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 23, it is a computer claim of claim 8. Thus, claim 23 is also rejected under the same rationale as cited in the rejection of rejected claim 8.

Re claim 24, it is a node claim of claim 1. Thus, claim 24 is also rejected under the same rationale as cited in the rejection of rejected claim 1.

Re claim 25, it is a node claim of claim 9. Thus, claim 25 is also rejected under the same rationale as cited in the rejection of rejected claim 9.

Re claim 26, it is a node claim of claim 3. Thus, claim 26 is also rejected under the same rationale as cited in the rejection of rejected claim 3.

Re claim 28, it is a node claim of claim 8. Thus, claim 28 is also rejected under the same rationale as cited in the rejection of rejected claim 8.

### *Claim Rejections - 35 USC § 103*

8.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.     Claims 12, 22, and 27 are rejected under 35 U.S.C. 103(a) as being obvious over Moreno (U.S. 7,065,544) in view of Fridrich (U.S. 6,101,602).

Re claim 12, Moreno fails to disclose in Figures 2-3 and 7 the function is a message digest function. However, Fridrich discloses in Figure 3 the function is a message digest function (e.g. Image digest function H in Figure 3). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the message digest function as seen in Fridrich's invention into Moreno's invention because it would enable to authenticate the digital data (e.g. col. 5 lines 1-10, col. 6 line 65 to col. 7 line 11, and claim 3 in col. 9).

Re claim 22, it is a computer claim of claim 12. Thus, claim 22 is also rejected under the same rationale as cited in the rejection of rejected claim 12.

Re claim 27, it is a node claim of claim 12. Thus, claim 27 is also rejected under the same rationale as cited in the rejection of rejected claim 12.

## *Conclusion*

10.     The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.     U.S. Patent No. 4,282,403 to Sakoe discloses a pattern recognition with a warping function decided for each reference pattern by the use of feature vector components of a few channels.

b.     U.S. Patent Publication No. 2004/0010529 to Kasper II discloses a digital correlation.

c.      U.S. Patent No. 5,239,497 to McKay et al. disclose a fast pattern correlation and

method.

d.      U.S. Patent Publication No. 2004/0098605 to Kasper II discloses a prospective

execution of function based on partial correlation of digital signature.

e.      U.S. Patent No. 6,792,438 to Wells et al. disclose a secure hardware random

number generator.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The

examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2193

April 2, 2007